IST 597A: Software Security and Analysis
(Spring 2015)

Schedule (tentative)

Week 1 (January 14): Logistics and Introduction.

**Phase 1: Software Foundations and Methodology**

Week 2 (January 21):
- Computational models

Week 3 (January 28)
- Inductive definitions.
- Homework assignment 1

Week 4 (February 4):
- $\lambda$-calculus, and
- Homework assignment 2

Week 5 (February 11)
- Type systems
- Homework assignment 3

Week 6 (February 18)
- Faculty candidate talk, Aniket Kate,

Week 7 (February 25)
- Faculty candidate talk, Xinyu Xing, Georgia Tech

Week 8 (March 4)
- Cancelled due to inclement weather

**Spring Break**

Week 9 (March 18)
• Model checking
• Homework assignment 4

Week 10 (March 25)

• Model checking demos using
  o SMV by Can Zhang,
  o Spin by Dongpeng Xu, and
  o JPF by Yu Fu.
• (Homework Assignment 5)

Phase 2: Software Security Seminar

Week 11 (April 1)

• Pei Wang (short and long presentations)
  2. Understanding and Detecting Real-World Performance Bugs Understanding and Detecting Real-World Performance Bugs. PLDI’12
  3. Code-Pointer Integrity. OSDI’14

• Yu Fu (short and long presentations)
  1. Towards a Framework for Constraint-Based Test Case Generation (LOPSTR’2009)
  2. Test Case Generation by Symbolic Execution: Basic Concepts, a CLP-based Instance, and Actor-based Concurrency (SFM’2014)

Week 12 (April 8)

• Dongpeng Xu

• Xiao Liu (short presentation for papers 1-4 and long on paper 5 below)


7. Slides

- Pinyao Guo (slides: short survey on the first 2 and long presentation on the 3rd)

- Li Wang

- Can Zhang
  1. Irreversible k-threshold processes: Graph-theoretical threshold models of the spread of disease and of opinion

Week 13 (April 15)
• Shuai Wang (slides)

• Jiang Ming

• Yufei Jiang

• Pengwei Lan

Week 14 (April 22)

• Xiao Liu

- Pinyao Guo


- Li Wang


- Jiang Ming


Week 15 (April 29)

- Pei Wang

• Pengwei Lan

• Yufei Jiang

• Shuai Wang (slides)

• Dongpeng Xu

**Phase 3: Projects**

TBD

• 6 students, 30 minutes each

TBD
• 5 students, 30 minutes each